

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventors: Chirag D. Dalal; Ronald S. Karr
Assignee: Veritas Operating Corporation
Title: USING A SINGLE ALLOCATOR TO COORDINATE VOLUME TRANSFORMATIONS ACROSS VIRTUALIZATION LAYERS
Application No.: 10/790,656 Filing Date: March 1, 2004
Examiner: Zhuo H. Li Group Art Unit: 2185
Docket No.: VRT0126US Confirmation No.: 9561

Austin, Texas
October 29, 2008

Mail Stop: Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLY BRIEF

Dear Sir:

This reply brief is submitted in response to the Examiner's Answer dated September 9, 2008.

Since an appeal fee has been paid, Appellants do not believe any further fees are required to be paid with this reply. If Appellants are wrong, however, please charge deposit account No. 502306 for any additional sums which may be required as part of this reply.

REAL PARTY IN INTEREST

The real party in interest on this appeal is Symantec Operating Corporation.

RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences related to this application.

STATUS OF CLAIMS

Claims 1-21 were originally presented. Claims 1-21 are pending. Claims 1-21 stand rejected. Appeal is for claims 1-21.

STATUS OF AMENDMENTS

All amendments have been previously entered. Claims stand as given in the Claim Appendix.

SUMMARY OF THE CLAIMED SUBJECT MATTER

The invention is as set forth in the claims. To summarize the invention without intending to limit or otherwise affect the scope of the claims, the invention described in each of the independent claims is described below with reference to citations to the specification, which serve as examples only.

The invention as set forth by independent claim 1 relates to a method comprising: a computer system creating a first storage object, wherein the first storage object is created to have a property; the computer system creating a second storage object, wherein the second storage object comprises a component storage object; the computer system choosing the first storage object to be the component storage object due to the property of the first storage object; the computer system modifying the first storage object, wherein the modified first storage object maintains the property. See the SUMMARY OF THE INVENTION between ¶¶ [0016] and [0017] of the specification. *See also* ¶¶ [0024] to [0031] of the specification.

The invention as set forth by independent claim 8 relates to a method comprising: a computer system creating one or more first storage objects, wherein the one or more first storage objects are created to have individual or collective properties; the computer system creating a second storage object out of the one or more first storage objects, wherein the second storage object depends on the individual or collective properties of the one or more first storage objects; the computer system receiving information that at least one of the individual or collective properties of the one or more first storage objects has changed and that the second storage object can no longer depend on the individual or collective properties of the one or more first storage objects; the computer system responding after receiving the information. See the SUMMARY OF THE INVENTION between ¶¶ [0016] and [0017] of the specification. *See also* ¶¶ [0024] to [0031] of the specification.

The invention as set forth by independent claim 12 relates to a computer readable medium storing instructions executable by a computer system, wherein the computer system implements a method in response to executing the instructions, the method comprising: creating a first storage object, wherein the first storage object is created to

have a property; creating a second storage object out of the first storage object, wherein the second storage object depends on the property of the first storage object; modifying the first storage object, wherein the modified first storage object maintains the property upon which the second storage object depends. See the SUMMARY OF THE INVENTION between ¶¶ [0016] and [0017] of the specification. *See also* ¶¶ [0024] to [0031] of the specification.

The invention as set forth by independent claim 19 relates to a computer readable medium storing instructions executable by a computer system, wherein the computer system implements a method in response to executing the instructions, the method comprising: creating a plurality of first storage objects, wherein the plurality of first storage objects are created to have individual or collective properties; creating a second storage object, wherein the second storage object comprises a component storage object; choosing the plurality of first storage objects to be the component storage object due to the individual or collective properties; modifying one or more of the plurality of first storage objects, wherein the modified storage objects maintain the individual or collective properties. See the SUMMARY OF THE INVENTION between ¶¶ [0016] and [0017] of the specification. *See also* ¶¶ [0024] to [0031] of the specification.

The invention as set forth by independent claim 20 relates to a data system comprising: a computer system in data communication with first and second computer systems, wherein the computer system comprises an instruction memory that stores instructions executable by the computer system, wherein the computer system implements a method in response to executing the instructions, the method comprising: creating a first storage object, wherein the first storage object is created to have a property; creating a second storage object, wherein the second storage object comprises a component storage object; choosing the first storage object to be the component storage object due to the property of the first storage object; modifying the first storage object, wherein the modified first storage object maintains the property. See the SUMMARY OF THE INVENTION between ¶¶ [0016] and [0017] of the specification. *See also* ¶¶ [0024] to [0031] of the specification.

The invention as set forth by independent claim 21 relates to a data system comprising: means for creating a first storage object, wherein the first storage object is

created to have a property (*see* Allocator 130, FIG. 3., and ¶ [0027]); means for creating a second storage object, wherein the second storage object comprises a component storage object (*see* Allocator 130, FIG. 3., and ¶ [0027]); means for choosing the first storage object to be the component storage object due to the property of the first storage object (*see* Allocator 130, FIG. 3., and ¶ [0027]); means for modifying the first storage object, wherein the modified first storage object maintains the property (*see* Allocator 130, FIG. 3., and ¶¶ [0027], [0034]).

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The Final Office Action, dated February 2, 2008, rejects claims 8-11 under 35 U.S.C. §102(e) as purportedly being anticipated by U.S. Patent No. 5,946,696 issued to Young (“Young”). *See* Final Office Action, p. 2. Appellants traverse this rejection on (1) the grounds that a person having ordinary skill in the art would fail to understand Young’s “text box displayed on a video display” as a storage object, and on (2) the grounds that the interpretation of Young offered by the Final Office Action leads to a logical inconsistency.

The Final Office Action rejects claims 1-5, 12-16, and 19-21 under 35 U.S.C. §103(a) as purportedly being unpatentable over U.S. Patent No. 6,826,600 issued to Russell (“Russell”) in view of U.S. Patent No. 6,065,011 issued to Bulusu et al. (“Bulusu”). *See* Final Office Action, pp. 3-5. Appellants traverse this rejection on the grounds that the proposed modification of Russell would change Russell’s principle of operation.

The Final Office Action rejects the remaining pending claims, claims 6-7 and 17-18, under 35 U.S.C. §103(a) as purportedly being unpatentable over U.S. Patent No. 6,826,600 issued to Russell (“Russell”) in view of U.S. Patent No. 6,065,011 issued to Bulusu et al. (“Bulusu”), and further in view of U.S. Patent Application No. 2003/0229698 issued to Furuhashi et al. (“Furuhashi”). *See* Final Office Action, p. 7. Appellants respectfully traverse this rejection on the grounds that claims 6-7 and 17-18 are dependent upon allowable base claims 1 and 12, respectively.

ARGUMENT

Rejection of Claims under 35 U.S.C. § 102

Claims 8-11

Claims 8-11 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 5,946,696 issued to Young (“Young”). *See* Final Office Action, p. 2. Appellants have traversed this rejection in Appellant’s Appeal Brief on (1) the grounds that a person having ordinary skill in the art would fail to understand Young’s “text box displayed on a video display” as a storage object, and on (2) the grounds that the interpretation of Young offered by the Final Office Action leads to a logical inconsistency. Appellants reply to the response to these arguments found in the Examiner’s Answer mailed September 9, 2008.

Cited Objects are not Storage Objects

In response to Appellants’ argument concerning the rejection of claim 8 that Young’s “text box displayed on a video display” would not be understood by a person having ordinary skill in the art to be a storage object, the Examiner’s Answer simply asserts, without evidence, that “the term ‘storage object’ is a broad term, which can be broadly reasonable [sic] interpreted as any object being stored in a memory or storage device” and states that “[a]lthough the claims are interpreted in light of the specification, limitations from the specification are not read into the claims.” *See* Examiner’s Answer, pp. 10-11.

Appellants reply that MPEP 2111.01(I) states the law, as given in the cases cited therein, to be that “[d]uring examination, the claims must be interpreted as broadly as their terms reasonably allow,” where “[t]his means that the words of the claim must be given their plain meaning *unless the plain meaning is inconsistent with the specification.*” (Emphasis added.) To interpret the term “storage object” as “any object being stored in a memory or storage device,” including Young’s text box displayed on a video display, is to give the words of claim 8 a meaning that is inconsistent with Appellant’s specification. The term “storage object” is discussed at least in ¶ [0007] of the specification, where it is stated that “[s]torage objects are abstractions that can be logically viewed as an array of logical memory blocks that store or are configured to store data.” This discussion of

“storage object” clearly does not comprehend “any object *being stored* in a memory or storage device,” and even more clearly fails to comprehend Young’s text box displayed on a video display. Thus, even if the plain meaning of “storage object” is “any object being stored in a memory or storage device” (an assertion Appellants deny) the Examiner is not entitled to interpret the “storage object” of claim 8 as “any object being stored in a memory or storage device” or as Young’s text box displayed on a video display.

The above analysis is supported by further statements of law found in MPEP 2111.01(IV), where it is stated that “[a]n applicant is entitled to be his or her own lexicographer and may rebut the presumption that claim terms are to be given their ordinary and customary meaning by clearly setting forth a definition of the term that is different from its ordinary and customary meaning(s),” and that “[t]he specification should also be relied on for more than just explicit lexicography or clear disavowal of claim scope to determine the meaning of a claim term when applicant acts as his or her own lexicographer; the meaning of a particular claim term may be defined by implication, that is, according to the usage of the term in the context in the specification.”

Finally, Appellants recognize that it is improper to import claim limitations from the specification into a claim as discussed in MPEP 2111.01(II). However, Appellents assert that they are not asking the Examiner to import any claim limitations from the specification into claim 8. Appellants are merely asserting that the term “storage object,” which already appears in the claim, be interpreted in light of the specification as required by the law discussed above.

Interpretation of Young Leads to a Logical Inconsistency

In response to Appellants’ argument concerning the rejection of claim 8 that the interpretation of Young offered by the Final Office Action leads to a logical inconsistency, the Examiner’s Answer simply asserts that “this argument is flaw [sic] and misleading” while more or less reiterating its previous arguments. *See* Examiner’s Answer, p. 11. The Examiner’s Answer does apparently introduce the additional assertion that since Young’s modified object 100 is created from Young’s original object 100 at a certain time, which can be denoted T₀, Young’s modified object 100 “depends” upon Young’s original object 100 at that time, T₀. *Id.*, p. 12. The Examiner’s Answer also

appears to imply that Young's modified object 100 "no longer depends" on the properties of Young's original object 100 "at the time the computer receiving [sic] information, i.e. modification information, that at least one of the individual or collective properties of the one or more first storage object has changed." *Id.* Denote this time T₁. Thus, the Examiner's answer appears to attempt to suggest that the two times T₀ and T₁ are not the same time, thereby avoiding Appellants' assertion that the Final Office Action's interpretation leads to the logically inconsistent conclusion that Young requires it to be the case that Young's modified object 100 *simultaneously* "depends" and "no longer depends" upon Young's original object 100.

However, the Examiner's Answer has given no reason to support the assertion that T₀ is not identical to T₁. In addition, the Examiner's Answer has said nothing that identifies an error in Appellants' assertion that the fact that the *same* circumstance of the modification of the properties of Young's original object 100 serves as both the condition that brings about what the Final Office Action takes to be the state in which Young's modified object 100 "depends" on Young's original object 100 as well as the condition that brings about what the Final Office Action takes to be the state in which Young's modified object 100 "no longer depends" upon Young's original object 100, implying that, in fact, T₀=T₁.

Another way of stating Appellants' opposition to the Final Office Action's rejection of claim 8 is to note that Appellants oppose the use of the same circumstance occurring in Young (namely, the modification of the properties of Young's original object 100) to count as both the condition that a given storage object depends as well as the condition that the very same object no longer depends upon a given property." Only on the pain of logical inconsistency can the same circumstance count for both.

Rejection of Claims under 35 U.S.C. § 103

Claims 1-5, 12-16 and 19-21

Claims 1-5, 12-16 and 19-21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,826,600 issued to Russell ("Russell") in view of U.S. Patent No. 6,065,011 issued to Bulusu et al. ("Bulusu"). *See* Final Office Action, pp. 3-5.

Appellants traverse this rejection on the grounds that the proposed modification of Russell would change Russell's principle of operation.

The Proposed Modification of Russell Would Change Russell's Principle of Operation

The Examiner's Answer to Appellants' assertion that the Final Office Action's proposed modification of Russell would change Russell's principle of operation, contrary to the requirements set out in MPEP 2143.01(VI), displays a number of infirmities.

First, when Appellants' point out that, contrary to the Final Office Action's proposed modification of Russell, Russell teaches against global object specification 160 comprising local object specification 150 since Russell teaches that global object specification 160 fails to comprise a component of local object specification 150 (namely local object identification 152), the Examiner's Answer replies that "the claimed language fails to further limiting the component storage object of the second storage object comprises all the property of the first storage object." *See* Examiner's Answer, p. 12. But this is irrelevant to Appellants' argument. Appellants are not arguing that Russell would need to teach that global object specification 160 comprises all the properties of local object specification 150 in order to teach the elements of the claims. Appellants are arguing that Russell teaches against the modification of Russell proposed by the Final Office Action. Thus, Appellants' argument turns only on features of Russell, and not on the language of the claims.

Finally, the Examiner's Answer appears to merely restate its position in a conclusory manner and does not address Appellants arguments. Thus, Appellants hereby reiterate those arguments.

Claims 6-7 and 17-18

Claims 6-7 and 17-18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,826,600 issued to Russell ("Russell") in view of U.S. Patent No. 6,065,011 issued to Bulusu et al. ("Bulusu"), and further in view of U.S. Patent Application No. 2003/0229698 issued to Furuhashi et al. ("Furuhashi"). *See* Final Office Action, p. 7. Appellants respectfully traverse this rejection on the grounds that

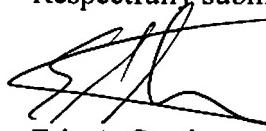
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claims 6-7 and 17-18 are dependent upon one of allowable base claims 1 and 12. Therefore Appellants respectfully request the withdrawal of this rejection and do not add any further response to the Examiner's Answer.

CONCLUSION

For the above reasons, Appellant respectfully submits that the rejection of pending Claims 1-21 is unfounded. Accordingly, Appellant respectfully requests that the Board reverse the rejections of these claims.

Respectfully submitted,



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APPENDIX

1. (Previously Presented) A method comprising:
a computer system creating a first storage object, wherein the first storage object
is created to have a property;
the computer system creating a second storage object, wherein the second storage
object comprises a component storage object;
the computer system choosing the first storage object to be the component storage
object due to the property of the first storage object;
the computer system modifying the first storage object, wherein the modified first
storage object maintains the property.

2. (Original) The method of claim 1 further comprising:
the computer system creating a third storage object, wherein the third storage
object is created to have a property;
wherein the computer system creates the second storage object out of the first and
third storage object, wherein the second storage object depends on the
properties of the first and third storage objects.

3. (Original) The method of claim 1:
wherein creating the first storage object comprises creating a first description of
the first storage object
transmitting all or a portion of the first description to a first computer system;
wherein creating the second storage object comprises creating a second
description of the first storage object;
transmitting all or a portion of the second description to a second computer
system.

4. (Original) The method of claim 3:

wherein modifying the first storage object comprises creating a modified first description of the modified first storage object;
transmitting the modified first description to the first computer system.

5. (Original) The method of claim 3 wherein the second description comprises a configuration map that maps a logical memory block of the second storage object to a logical memory block of the first storage object.

6. (Original) The method of claim 1 wherein creating the first storage object comprises allocating a logical unit (LUN) or a physical storage device of a data storage subsystem to the first storage object.

7. (Previously Presented) The method of claim 3 wherein the first description comprises a configuration map that maps a logical memory block of the first storage object to a logical memory block of the LUN or to a physical memory block of the physical storage device.

8. (Previously Presented) A method comprising:

a computer system creating one or more first storage objects, wherein the one or more first storage objects are created to have individual or collective properties;

the computer system creating a second storage object out of the one or more first storage objects, wherein the second storage object depends on the individual or collective properties of the one or more first storage objects;

the computer system receiving information that at least one of the individual or collective properties of the one or more first storage objects has changed and that the second storage object can no longer depend on the individual or collective properties of the one or more first storage objects;

the computer system responding after receiving the information.

9. (Original) The method of claim 8 wherein the computer responding comprises generating a message indicating that warning that that the second storage object can no longer depend on the individual or collective properties of the one or more first storage objects.

10. (Original) The method of claim 8 wherein the computer responding comprises replacing the storage object with a new storage object

11. (Original) The method of claim 8 wherein the computer responding comprises modifying the storage object.

12. (Original) A computer readable medium storing instructions executable by a computer system, wherein the computer system implements a method in response to executing the instructions, the method comprising:

creating a first storage object, wherein the first storage object is created to have a property;

creating a second storage object out of the first storage object, wherein the second storage object depends on the property of the first storage object;

modifying the first storage object, wherein the modified first storage object maintains the property upon which the second storage object depends.

13. (Original) The computer readable medium of claim 12 wherein the method further comprises:

creating a third storage object, wherein the third storage object is created to have a property;

wherein the second storage object is created out of the first and third storage object, wherein the second storage object depends on the properties of the first and second storage objects.

14. (Original) The computer readable medium of claim 12:
wherein creating the first storage object comprises creating a first description of
the first storage object;
wherein creating the second storage object comprises creating a second
description of the first storage object, and wherein the method further
comprises:
transmitting all or a portion of the first description to a first computer system;
transmitting all or a portion of the second description to a second computer
system.

15. (Original) The computer readable medium of claim 14:
wherein modifying the first storage object comprises creating a modified first
description of the modified first storage object, and wherein the method
further comprises:
transmitting the modified first description to the first computer system.

16. (Original) The computer readable medium of claim 14 wherein the
second description comprises a configuration map that maps a logical memory block of
the second storage object to a logical memory block of the first storage object.

17. (Original) The computer readable medium of claim 13 wherein creating
the first storage object comprises allocating a logical unit (LUN) or a physical storage
device of a data storage subsystem to the first storage object.

18. (Original) The computer readable medium of claim 17 wherein the first
description comprises a configuration map that maps a logical memory block of the first
storage object to a logical memory block of the LUN or to a physical memory block of
the physical storage device.

19. (Previously Presented) A computer readable medium storing instructions executable by a computer system, wherein the computer system implements a method in response to executing the instructions, the method comprising:

creating a plurality of first storage objects, wherein the plurality of first storage objects are created to have individual or collective properties;

creating a second storage object, wherein the second storage object comprises a component storage object;

choosing the plurality of first storage objects to be the component storage object due to the individual or collective properties;

modifying one or more of the plurality of first storage objects, wherein the modified storage objects maintain the individual or collective properties.

20. (Previously Presented) A data system comprising:

a computer system in data communication with first and second computer systems, wherein the computer system comprises an instruction memory that stores instructions executable by the computer system, wherein the computer system implements a method in response to executing the instructions, the method comprising:

creating a first storage object, wherein the first storage object is created to have a property;

creating a second storage object, wherein the second storage object comprises a component storage object;

choosing the first storage object to be the component storage object due to the property of the first storage object;

modifying the first storage object, wherein the modified first storage object maintains the property.

21. (Previously Presented) A data system comprising:
means for creating a first storage object, wherein the first storage object is created
to have a property;
means for creating a second storage object, wherein the second storage object
comprises a component storage object;
means for choosing the first storage object to be the component storage object due
to the property of the first storage object;
means for modifying the first storage object, wherein the modified first storage
object maintains the property.